SEAC4RS - ER-2 #809 09/23/13 Science Report

Aircraft: ER-2 - AFRC #809 (See full schedule)
Date: Monday, September 23, 2013
Mission: SEAC4RS
Mission Summary:

Flight Report – SEAC4RS ER-2, September 23, 2013

Prepared by: Richard Ferrare (richard.a.ferrare@nasa.gov)

Purpose of flight: On the transit back to Palmdale, the science goals for this flight were to: 1) acquire in situ data during four dips along the MLS track for comparisons of airborne and satellite water vapor and aerosol measurements, 2) acquire in situ measurements from convective outflow from an MCS over the north central states, 3) study aging of stratospheric air and carbon species at high potential vorticity, 4) acquire remote sensing data under very clean conditions over the Bozeman supersite and the Railroad Valley AERONET site, 5) obtain in situ measurements of carbon dioxide at low altitude over/near the TCON site at Edwards AFB.

Pilot: Stu Broce

Takeoff: 10:35 CDT

Duration: 7.8 hours

Notes:

The ER2 flew NW toward central Texas to get on the MLS track. The ER-2 then flew NNW along the MLS track and executed four dips along this track. These dips were successfully executed down to 41 kft. No obvious injections of water were noted from the large system that was in the vicinity. The ER-2 then proceeded to the far northern point in southern Manitoba to reach high potential vorticity values before turning southwest to head to Palmdale. After turning southwest, the ER-2 flew at constant altitude and flew a 150 km AirMSPI leg over the Bozeman supersite. Skies were mostly clear over the site and the aerosol optical thickness (AOT) was low (~0.04 at 500 nm). The ER-2 then proceeded southwest and flew over the AERONET site in Railroad Valley, Nevada where skies were cloud-free and the AOT was very low (~0.02 at 500 nm). Before landing in Palmdale, the ER-2 performed a slow descent allowing measurements of carbon dioxide to be acquired as low as 5000 ft in the vicinity of the TCON site.

Aircraft and instruments: All instruments appear to have worked nominally as far as limited in-flight and quick-look analyses showed.

Images:

ER-2 September 23

Read more

Submitted by: Richard Ferrare on 09/24/13
File:
seac4rs_er2_23_Sep.pdf
Related Flight Report:

ER-2 #809 09/23/13

Flight Number: 13-9069
Payload Configuration: SEAC4RS
Nav Data Collected: Yes

Total Flight Time: 7.8 hours
Submitted by: Timothy Moes on 09/23/13
Flight Segments:

From:	EFD	**To:**	EFD
Date:	09/23/13		
Flight Time:	7.8 hours		
Log Number:	132301 - Completed as of this flight.	**PI:**	Kent Shiffer
Funding Source:	Hal Maring - NASA - SMD - ESD Radiation Science Program		
Purpose of Flight:	Science		
Comments:	The objectives for this transit/science flight from Ellington Field to Palmdale was flight along a MLS/Calipso satellite track, dips within a forecasted MCS, and overflight of Aeronet sites at Bozeman and Railroad Valley. Aircraft returned in good shape. Initial indications that science sensors also performed well.		

Flight Hour Summary:

	132301
Flight Hours Approved in SOFRS	166
Total Used	164.6
Total Remaining	1.4

132301 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
08/01/13	13-9048	Check	3	3	163	
08/02/13 - 08/03/13	13-9049	Science	6.5	9.5	156.5	
08/06/13 - 08/07/13	13-9050	Science	8.4	17.9	148.1	
08/08/13	13-9051	Science	7.2	25.1	140.9	
08/12/13	13-9052	Science	7.9	33	133	
08/14/13	13-9053	Science	6	39	127	
08/16/13	13-9054	Science	7.8	46.8	119.2	
08/19/13	13-9055	Science	8.1	54.9	111.1	
08/21/13	13-9056	Science	7.3	62.2	103.8	
08/23/13	13-9057	Science	7.7	69.9	96.1	
08/27/13	13-9058	Science	7.2	77.1	88.9	
08/30/13	13-9059	Science	7.4	84.5	81.5	
09/02/13	13-9060	Science	8.2	92.7	73.3	
09/04/13	13-9061	Science	8.4	101.1	64.9	
09/06/13 - 09/07/13	13-9062	Science	8	109.1	56.9	
09/09/13 - 09/10/13	13-9063	Science	8.1	117.2	48.8	

09/11/13 - 09/12/13	13-9064	Science	7.6	124.8	41.2
09/13/13	13-9065	Science	8	132.8	33.2
09/16/13	13-9066	Science	8	140.8	25.2
09/18/13	13-9067	Science	7.9	148.7	17.3
09/22/13	13-9068	Science	8.1	156.8	9.2
09/23/13	13-9069	Science	7.8	164.6	1.4

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Page Last Updated: April 22, 2017

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